

toward a shared vision for Massachusetts in the new economy

Choosing to Compete proposed a vision for Massachusetts that went beyond the traditional economic development objectives of job growth and economic prosperity to include regional equity and broad economic opportunity. This vision also highlighted the importance of a good quality of life (see box, *The five elements of the “Choosing to Compete” vision*). A central theme in *Choosing to Compete* was that Massachusetts could achieve these objectives by enhancing the competitiveness of the Massachusetts economy in the national and global marketplace.

The five elements of the “Choosing to Compete” vision

- A rising standard of living
- Job growth
- Regional equity
- Broad economic opportunity
- A high quality of life

This chapter re-examines the vision articulated in *Choosing to Compete*. It will assess the Commonwealth’s progress using the benchmarks proposed in that document. While this benchmarking is instructive, Chapter 2 highlights several dynamics that enhanced our competitiveness and eased the State’s adaptation to the dramatic structural changes in the economy that took place during the 1990s. These factors also require us to re-examine that vision as we develop a new strategic framework for the New Economy.

Given the increasing importance of place and workforce mobility, as highlighted in Chapter 2, improving the quality of life in the Commonwealth has emerged as an overarching goal. Broadly defined, “quality of life” includes jobs, prosperity, and regional opportunity, as well as environmental sustainability, a healthy and safe citizenry, and a strong civic culture. This chapter will develop the foundations of a new vision aimed at enhancing quality of life in all corners of the State.

With such a vision in place, we can then turn to the development a strategic framework for economic development in the Commonwealth. This framework will focus thought and action on policy options that support this vision and our prosperity over the long term. This vision and related strategic framework must be shaped by a review of our previous policy initiatives and their impact on economic growth and competitiveness.

Building Competitive Advantage: A Look at Economic Progress and Challenges Over the Past Decade.

As highlighted in Chapter 2, Massachusetts’ recovery from the deep recession of the early 1990s and its adaptation to dramatic structural changes in the economic environment is impressive. In many important ways Massachusetts has been a leader in a shift to a knowledge-driven, technology-led, and increasingly global economy. This transition has had significant impacts on firms,

workers, families and communities, which can be evaluated against the vision put forth in *Choosing to Compete*. The following analysis highlights the State's progress and underscores remaining challenges.

A high standard of living

The Commonwealth has made significant progress in improving the standard of living for many of its citizens. During the 1990s, real per capita personal income – that is, income adjusted for inflation – exceeded overall U.S. levels. The growth in income remains especially strong in our knowledge-based export industries.

While significant progress was made, a number of important challenges remain. Most notably, as Figure 3-2 shows, median real household income in the Commonwealth remains flat. This indicates that the middle-income wage earners have not shared in the gains of the past decade. A major factor limiting the growth of average and median real income measures was a sharp rise in housing prices. Homeowners have benefited from this appreciation, and standard income measures fail to capture that gain. Rising home prices, however, have seriously eroded the prosperity of non-homeowners, making it difficult for many Massachusetts workers to afford a first home.

Job growth

Choosing to Compete targeted employment growth and low levels of unemployment as key objectives. Employment data indicate that Massachusetts has been successful in meeting these goals. Despite severe adverse shocks to our export sector in the early 1990s, as seen in job losses, unemployment declined steadily over the decade, going from well above to well below the national average (see sidebar *Goal: Job Growth*, pg.34). Employment growth was also brisk, rising at essentially the national rate.¹

Looking forward, the declining population in the 18-24 age cohort presents a different challenge. This age group represents a critical mass of future workers and a base of potential entrepreneurs. How well the State responds to this coming demographic decline will have a major impact on our economy for years to come.

Strong regional economies within the State

Choosing to Compete emphasized the need for the State to build strong local economies by capitalizing on unique regional strengths. That all regions shared in the declining rates of unemployment suggests important progress. However, there have been clear disparities in wage and employment growth across regions (see sidebar *Goal: Strong Regional Economics*, pg. 37 and 38). Greater Boston posted impressive gains, but the Pioneer Valley,

¹ Since 1970, employment growth in the Commonwealth has lagged the national rate by 3/4 of a percentage point; in part because our employment growth has been slower, unemployment has averaged 1/2 of a percentage point below the national rate. Despite the severe hit to our major export industries at the beginning of our decade, our economy has significantly outperformed these long-term benchmarks.

Goal: High Standard of Living

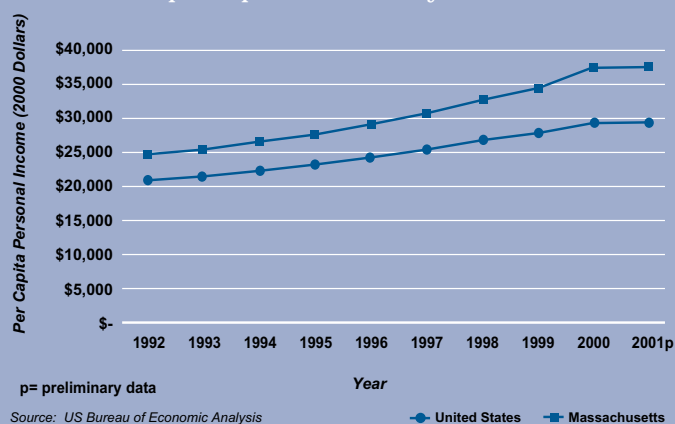
The vision outlined in *Choosing to Compete* included a high standard of living, as defined by high per capita income relative to the regional cost of living. The state sought to reduce the cost of doing business in the state, increase private investment and improve the capabilities of the workforce. *Choosing to Compete* outlined many specific actions that the state could undertake to realize its vision, including: promoting fiscal stability, modifying business regulations, streamlining the permit approval process, promoting private investment and technology transfer, and reducing business costs.

Per capita income exceeds U.S. average...

Since 1992, real per capita personal income in Massachusetts has risen 24 percent, compared to the national average of 14 percent. The per capita figures are stated in real 2000 dollars, using the US CPI for urban consumers.

figure 3-1

Real income per capita rose smartly



...but median income was stagnant during the 1990s.

Census Bureau data shows that, between 1989 and 1999, median real household income increased slightly in Massachusetts while the national average increased at a faster rate.

The rising per capita personal income and the flat median household income indicate that most Massachusetts households earn the same income today as they did in 1993 while higher-income households are earning significantly more.

(Continued on next page)

Goal: High Standard of Living (continued)

High housing costs impact the Commonwealth

Housing affordability is a large factor in the cost of living and is an important determinant in many workers' decisions to relocate. Recent prosperity has contributed to the rising price of homes, which in Massachusetts may offset any potential gains in the increase of the per capita personal income. From 1996 to 2000, the median price of single-family homes in Massachusetts increased 47 percent, from \$153,000 to \$225,500. In comparison, national figures increased 24 percent, from \$131,000 to \$162,000.

The graph highlights the rising "affordability gap" between median family income and the income required to purchase a home in the metropolitan Boston area. As proposed by the U.S. Department of Housing and Urban Development, the price of a home should not exceed 2.5 times a household's annual income. The median home price in the region has increased to over \$300,000 in 2000. The difference between median family income and the income needed to purchase a median-priced home has also increased substantially. In 1993, the "affordability gap" equaled 37 percent of median family income. In 2000, it equaled 92 percent of median family income.

Homes are often the most significant source of household wealth, so the rise in home prices benefited Massachusetts homeowners. However, the high price of housing resulted in home ownership rates in the Commonwealth falling from 62 percent in 1996 to 60 percent in 2000. Over the same period, national home ownership rates increased from 65 percent to 67 percent.²

figure 3-2

Real median household income

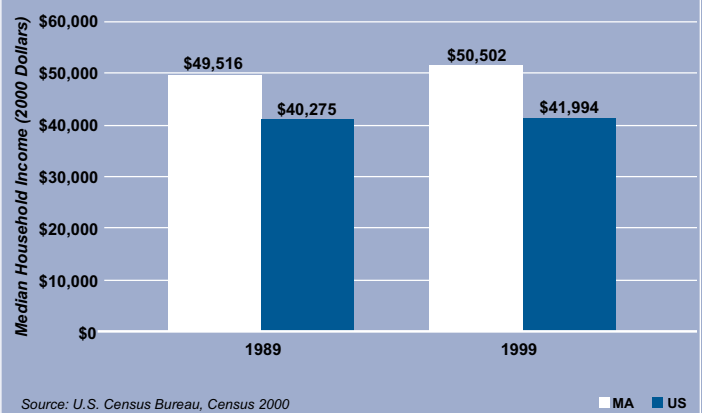
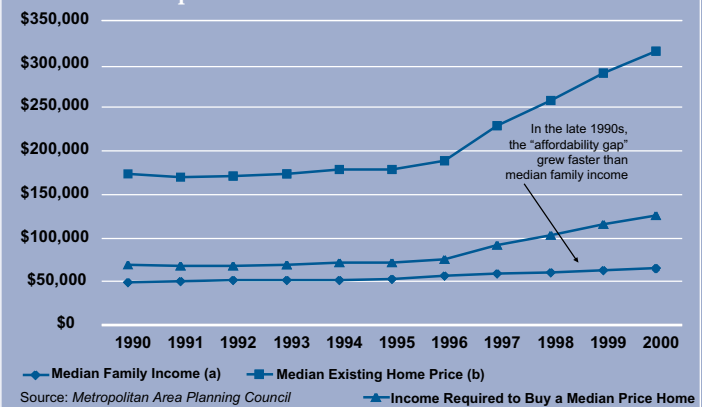


figure 3-3

Housing Affordability Trends in the Metropolitan Boston Area



the Berkshires, and the Southeast regions had a far more difficult decade. The sharp decline in the number of young adults, and projected slow-growing workforces in all regional economies, also portends further challenges to promoting economic growth and entrepreneurship across the Commonwealth.

Broad economic opportunity

Choosing to Compete proposed a vision that promoted broad economic opportunity for all. While all population groups have seen the benefits of increased employment, African-Americans, in particular, did not fully participate in the Commonwealth's robust growth during the 1990s. Unemployment in many cities also remains chronically high, running 50 percent above the statewide average in cities like Fitchburg, Lawrence, Springfield, Fall River, and New Bedford. Many communities throughout the Common-

wealth continue to have limited access to affordable high speed internet service. Thus, while overall economic progress has been significant, extending economic opportunity to all Massachusetts regions and communities remains a significant challenge (see sidebar, *Goal: Broad Economic Opportunity*, pg.38).

A high quality of life

Choosing to Compete insisted that economic development need not come at the price of environmental degradation. While many see economic and environmental goals at odds, the document promoted a vision in which the two objectives were compatible. The results achieved over the course of the past decade are a testament that such progress is possible (see sidebar, *Goal: A High Quality of Life*, pg.41). A more collaborative approach to business and environmental regulation, in particular, resulted in enhanced

pollution control. Success has been accompanied by new challenges, such as sprawl. If not addressed, these new challenges threaten the essential quality of life that is New England and uniquely Massachusetts.

A review of the previous decade from the perspective of the vision developed in *Choosing to Compete* is instructive. Much has been accomplished in achieving that vision, but significant challenges remain. Before moving forward, however, we must understand the role of government in supporting economic competitiveness. In particular, we need to see how government can contribute by participating in the entrepreneurial networks highlighted in Chapter 2.

Developing a Policy Framework: Understanding the Role of Government

Choosing to Compete emphasized the importance of a shared leadership role for State government. The Commonwealth, it declared, had to be “an effective economic development partner with local and regional interests throughout the State, providing the incentives and assistance to promote competitiveness”.³

The economy has since changed in ways that have significantly increased the importance of this partnership with business and with non-governmental organizations and other levels of government. The relationship between business and government in the past has often been adversarial. In today’s increasingly networked, knowledge dependent economy, we need far more flexibility and cooperation.

Building a Vision for the New Century: Understanding the New Economic Landscape

To develop a shared vision for the Commonwealth’s future, we must identify the forces that will influence the State’s future economic prosperity. As highlighted in Chapter 2, four dynamic factors are likely to shape the competitive landscape going forward:

The knowledge worker - The increasing technological demands on workers points to the on-going importance of developing workforce skills. This is not only true for workers shifting to the expanded service sector, but for those employed in manufacturing as well. The need for upgrading skills is an ever-increasing challenge for both business and government. It is a challenge that extends across the lifecycle – from early childhood and K-12 to higher education – and to the need for lifelong education and training. An effective partnership between business and government is required to meet these education and training needs and to insure that Massachusetts remains on the frontier of innovation.

² Massachusetts Technology Collaborative, *Index of the Massachusetts Innovation Economy*, 2001. p.56

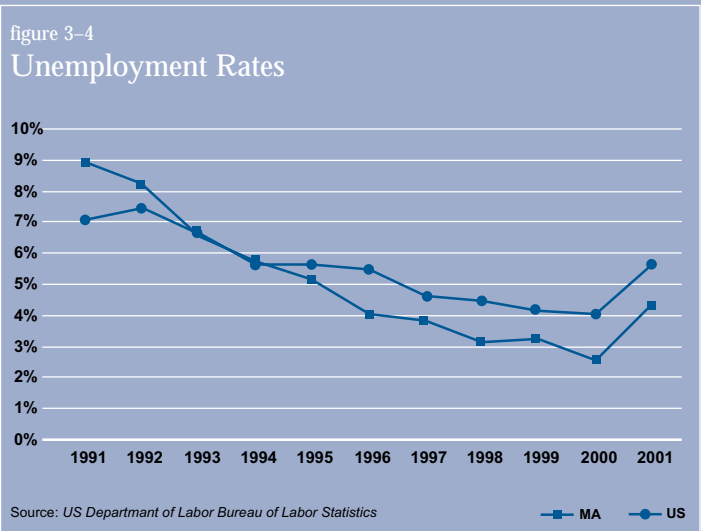
³*Choosing to Compete*, p.30.

Goal: Job Growth

When *Choosing to Compete* was published in 1993, unemployment in Massachusetts was near an all time high. *Choosing to Compete* set out a strategy to stimulate job growth in the state by encouraging diversification of markets, products and companies in the economy. The strategy outlined a number of actions to increase employment, including the reduction of business costs, the promotion of private investment and technology transfers, and use of trade missions and export promotion programs.

Unemployment declined significantly...

The jobless rate fell far faster in Massachusetts than in the nation over the previous decade, falling by 48 percent from its high in 1991.



...but job growth exceeded labor force growth

Over the last decade, jobs in Massachusetts grew faster than the labor force, resulting in shrinking unemployment rates. Between 1992 and 2001, the Massachusetts labor force grew 4 percent. During the same period, the number of jobs in the Commonwealth increased 19 percent. By 2000, the state had more jobs than current or potential workers in its labor force. Some of these extra jobs were filled by Massachusetts residents holding multiple jobs. Commuters from other states also filled some of the jobs not filled by Massachusetts residents.

(Continued on next page)

Goal: Job Growth (continued)

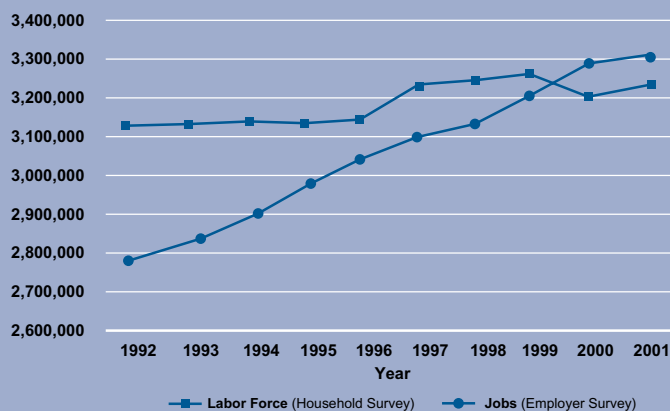
New jobs were concentrated in the service sector

Most of the job growth in the 1990s emerged from the services sector. Between 1991 and 2001, the services sector employment reached 1.2 million, an increase of 38 percent. Employment in manufacturing decreased 13 percent during the same period.

The service sector now employs 37 percent of the state's workforce, up from 32 percent in 1990. In comparison, the manufacturing sector now employs 13 percent, down from 17 percent in 1990. As noted in *Knowledge Sector Powerhouse*, "Manufacturing's falling share of employment reflects both a shift in output from goods to services and reorganization of manufacturing production in ways that use fewer workers."⁴

figure 3-5

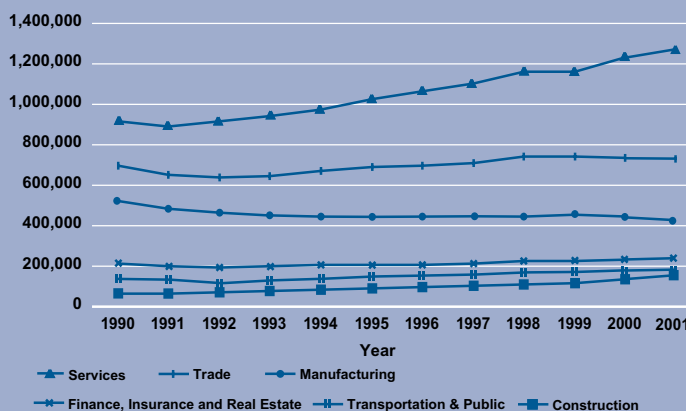
Labor force and job growth



Source: US Department of Labor, Bureau of Labor Statistics

figure 3-6

Change in major employment sectors



Source: Massachusetts Division of Employment and Training

This partnership must focus on science and technology as an essential building block of the evolving knowledge worker. Basic education, widespread access to affordable and high quality higher education, ready access to incumbent worker training programs, and systematic advances in science and technology form the core elements of a statewide vision for investing in human capital.

The networked economy - Economic trends in the U.S. and Massachusetts suggest that companies are seeking greater flexibility for themselves, their partners, their customers, and their government. The pace of technology as well as employment and migration patterns suggest that the large monolithic corporation is giving way to a set of dense, rich networks of companies and individuals that offer resources and opportunities. These economic networks are the entrepreneurial infrastructure of our export industry clusters and include firms, government agencies, academic institutions, industry associations, financial institutions, and a multitude of specialty providers. Information technology, particularly the Internet, has tremendously leveraged the exchange capacity of networked entrepreneurship. Increasingly, the role of government is to act as the convener of interests, helping establish links in this dense network of resources and opportunities.

The global marketplace - Advances in information and transportation technologies, combined with increased opportunities for trade have opened enormous new commercial frontiers. This market fusion changed the entire framework for economic exchange between regions, both internationally and within nations. The role of knowledge in production has become a truly transnational phenomenon. This creates increased opportunities as well as needs. To effectively compete, states and regions must place increased emphasis on building networks and clusters that trade outside the region. States and regions must also place increasing emphasis on infrastructure improvements, broadband deployment, and regional security.

The increasing importance of place - The mobile knowledge worker, who has more options on where to live than ever, is increasingly drawn to the physical and cultural amenities in a state. Given the strong tradition of "home-rule" in Massachusetts, the importance of place expands the need for state and local governments to work in partnership with firms and citizens to preserve and strengthen the quality of life in local communities. This trend underscores the economic importance of balancing growth with environmental sustainability.

A Shared Vision for Massachusetts in the New Economy

The current economic environment invites a re-examination of the Commonwealth's goals and objectives for economic development.

⁴ Robert Forrant, Philip Moss, and Chris Tilly, *Knowledge Sector Powerhouse* (Boston: Donahue Institute, University of Massachusetts, 2001).

It takes into account the five original goals outlined in “*Choosing to Compete*” as well as new objectives that emerged in the ensuing decade. This vision must then be realized through a policy framework suited to a knowledge-based economy. Ultimately, the priorities of economic development policy, as well as the composition of performance indicators, must be the product of a thorough political discussion, and defined through ongoing engagement with the public, the business community, and policy-makers.

While the economic landscape underwent dramatic shifts in the past decade, the bottom line for the people of Massachusetts continues to be a high quality of life. This objective broadly defines citizens not only as workers, but also as parents, students, neighbors, and stakeholders in the full range Massachusetts institutions – from its universities to its farms and firms. As in the past, maintaining a high quality of life requires a constant effort to balance the costs and benefits of economic growth, with special attention to regional distributions and the breadth of economic opportunity. Yet people and firms are more mobile today than ever before. *For this reason, an enhanced quality of life emerged as a necessary investment in the future growth prospects for the Commonwealth.*

Quantifying progress toward economic development goals is a challenging task. This is particularly so when considering the level of overlap and linkages between various objectives. The new vision and measurement of state economic performance should include a series of indicators that capture progress towards the achievement of individual goals. Measurement should also acknowledge the complementary, and potentially contradictory, relationship between goals. For instance, job growth needs to be understood within the context of educational opportunities and workforce development. Industrial expansion must be balanced against sustainability and environmental considerations.

The vision must bring together the lessons of the past decade and the continued imperatives for a competitive Massachusetts. The vision proposed for the State’s business leaders, policymakers, and citizens incorporates the first four elements of *Choosing to Compete* and includes three new key elements – environmental sustainability, healthy and safe citizens, and a strong civic culture. Collectively, these elements form the core of a new vision for economic competitiveness centered on the overarching goal of a high quality of life.

An Overarching Goal: High Quality of Life.

Economic development sits at the nexus of a broad array of quality of life issues that are cultural, social, and communal in nature. Progress in all these areas is not only a basic, but a justified expectation of our citizens. It has become an integral *competitive* factor that underlies the success of our whole economic development strategy. In many ways, quality of life is a meta-goal, incorporating all of our objectives for economic development and requiring a

comprehensive set of indicators to accurately represent the State of affairs for our citizens and their communities.

Key Elements: A High Quality of Life

High and rising standard of living

Job growth

Strong regional and community-based economies

Broad economic opportunity

Environmental sustainability

Healthy and safe citizens

Strong civic society

A high and rising standard of living - This is defined as high per capita income relative to regional costs of living. The Commonwealth has made important progress as evidenced by gains in per capita income. However, the rising cost of living in Massachusetts, driven in large measure by dramatic increases in housing prices, has undermined efforts to raise the standard of living of our residents. Per capita and median household income measures are both important. Rising values for both indicate a widely shared rising standard of living.

Performance Indicators: Increasing average and median personal real income – both per capita income and the income of the middle-rung worker, after adjusting for changes in the cost of living.

► **Job growth** - This goal incorporates policies that encourage the development of quality, high-income positions in the State and, of equal importance, developing and attracting the human capital necessary for vibrant economic growth in the new knowledge-based economy. The Commonwealth must also develop measures that help attract and retain college graduates as a means to augment the supply of workers and potential entrepreneurs in the 18-24 cohort.

Performance Indicators: Employment growth and the unemployment rate in the State. Employment growth in export industry clusters.

► **Strong regional and local economies** - Focused attention must be paid to ensure that economic development takes place throughout the Commonwealth. These efforts must leverage unique strengths and address the particular weaknesses of individual regions. There must be a sustained process of strengthening regional, national – and of particular importance – international linkages that are becoming critical variables in determining economic success.

Performance Indicators: Regional employment levels, employment growth, unemployment rates, and per capita and median real income are the standard measures. Attention should also be given to digital and physical infrastructure growth, and encouragement of innovation and technology centers supporting regional export clusters.

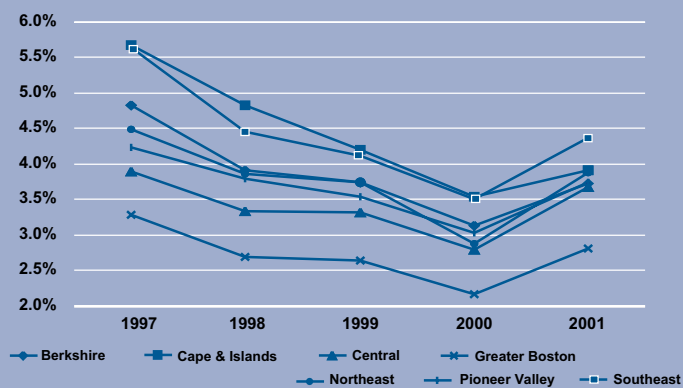
Goal: Strong Regional Economies

A major emphasis of *Choosing to Compete* was to insure that economic development planning occurred at regional and local levels. The goal was to create vibrant regional economies that provided jobs and economic opportunity throughout the Commonwealth. Specific actions that the strategy included the delivery of regionally responsive economic development services, the formation of local and regional economic development strategies, and the creation of region-specific training programs.

Unemployment rates declined in all regions...

Unemployment rates have dropped in all regions of the Commonwealth. The Greater Boston region has maintained a consistently low unemployment rate relative to the other regions. The Berkshire and Cape and Islands regions have experienced consistently higher rates.

figure 3-7
Unemployment Rates by Region, 1997 to 2001



...but disparities in regional wages remain

Over the past decade, average real wages in Massachusetts have risen. However, this rise is primarily due to the steep increases in the Greater Boston and Northeast regions. The Central and Cape and Islands regions recorded modest gains while average real wages in the Berkshire, Pioneer Valley, and Southeast regions showed little improvement.

Disparity in household incomes across the Commonwealth

Uneven wage gains contribute to varying rates of change in household income. Between 1990 and 2000, real household incomes in Massachusetts increased 2 percent. Median

figure 3-8
Real Average Wages by Region, 1990 to 1999

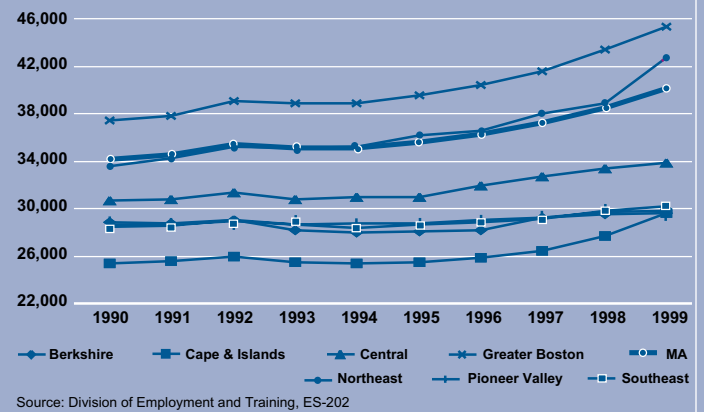
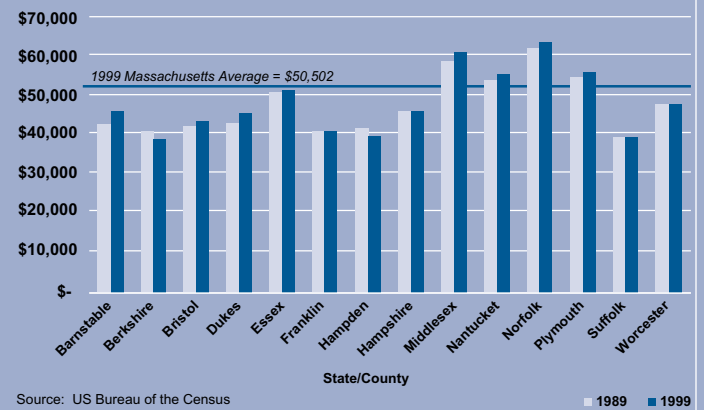


figure 3-9
Real Median Household Income, by County



household income in Barnstable, Bristol, Dukes, and Middlesex counties experienced growth rates exceeding the state average. In contrast, median household income in Berkshire, Hampden, Suffolk, and Worcester actually declined.

Demographic changes in all regions suggest workforce challenges

All the regions experienced a decline in the 19-24 age group. Three regions experienced modest growth in the 25-44 age group. Declines in this group occurred in four regions, most notably in the Pioneer Valley and the Berkshires.

These patterns point to a shortage of young people in all regions of the state. Apart from implications for the size of the future workforce, this trend has negative implications for the future health of entrepreneurship in Massachusetts. A study by the Global Entrepreneurship Monitor (GEM) notes that

figure 3-10
Population Change by
Age Group US and Massachusetts

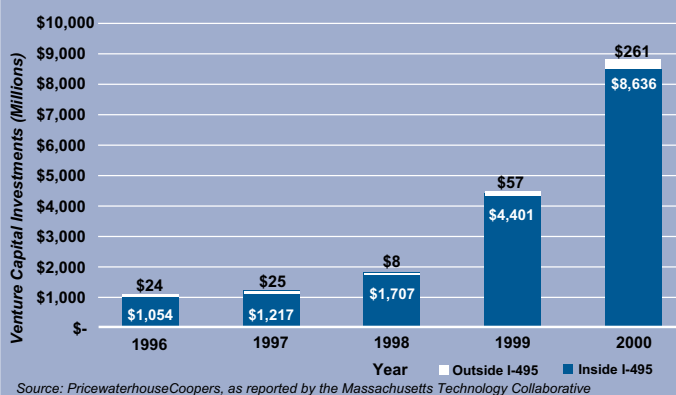


entrepreneurship activity is highest in the 25 – 44 age group (see Chapter 4, footnote 1).

Venture investment remains concentrated in the Greater Boston region

The preponderance of venture capital investment has gone to firms inside Interstate 495. While this highlights important regional specialization, growing knowledge-based export clusters in all regions would benefit from increased investment throughout the Commonwealth.

figure 3-11
Venture capital investments in Massachusetts,
inside and outside Interstate 495



Goal: Broad Economic Opportunity

The authors of *Choosing to Compete* noted that certain geographic areas of the Commonwealth would require exceptional job creation measures. These areas did not benefit from the prosperity created by prior economic booms and the human capital and physical assets in these areas remained underutilized. The strategy outlined in *Choosing to Compete* called for the state government to target job creation incentives in economically distressed areas by promoting private investment, providing technical and job training assistance, improving infrastructure, providing special assistance to minority owned enterprises, and improving basic education.

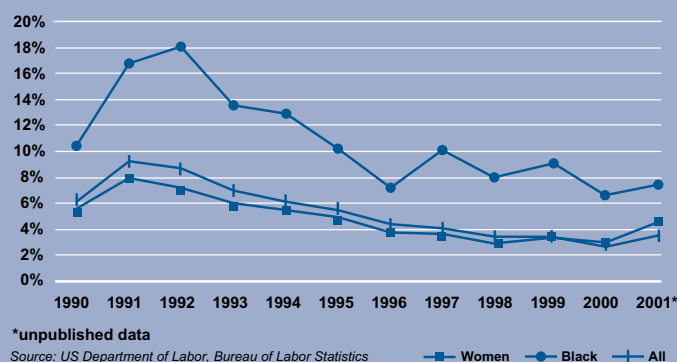
Minority unemployment rates declined

Over the last decade, unemployment figures dropped statewide and for women and Black residents.

The unemployment rate for women has been consistently below the statewide average. Between 1991 and 2001, the unemployment rate for Black residents has been consistently above the statewide average. Unemployment has dropped 53 percent statewide and 60 percent for women. One disturbing finding is that unemployment among Black residents increased from 1996 to 1997 before recovering slightly in 1998, meaning that fewer Blacks took part in the economic boom of the late 1990s.

(Continued on next page)

figure 3-12
Statewide unemployment rates
for women and black residents



Goal: Broad Economic Opportunity (continued)

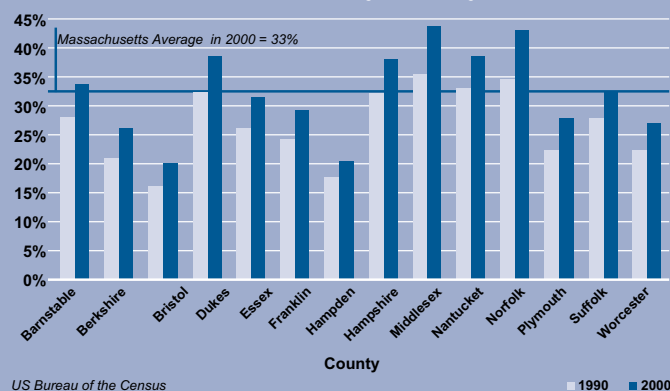
Unemployment in cities and regions remains relatively high

Many of the Commonwealth's cities continued to experience above-average unemployment rates. In 1993, three cities reported unemployment rates 50 percent higher than the statewide average of 6.9 percent: Fall River, Lawrence, and New Bedford. By 2000, the Commonwealth's annual average rate of unemployment fell to 2.6 percent. However, Fall River, Fitchburg, Lawrence, New Bedford, and Springfield experienced unemployment rates that were at least 50 percent higher during that year.

Progress on improving educational attainment was uneven

In 2000, over 33 percent of the Commonwealth's population aged 25 or more held a college degree, an improvement of 6 percentage points over 1990 levels. All counties in the state experienced an increase in the number of adults holding a BA/BS degree or more. Two counties, Middlesex and Norfolk, posted the largest rates of increase. These counties have shares of adult degree holders exceeding 40 percent. Five counties, Hampden, Bristol, Worcester, Suffolk, and Franklin, posted rates of increase that lagged behind the statewide averages. Four of these counties have shares of adult degree holders below 30 percent.

figure 3-13

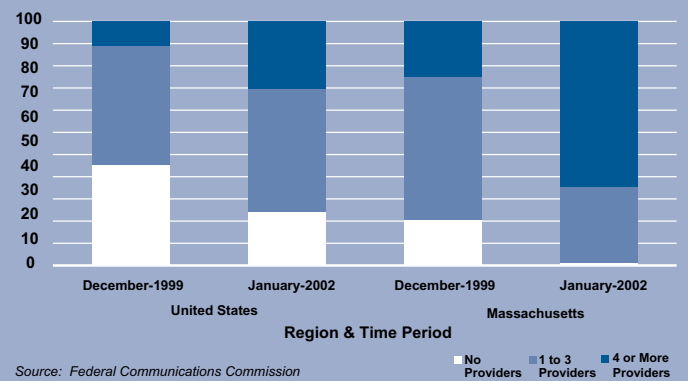
Share of Adult Residents with BA/BS Education or More, by County**Broadband access is critical to promoting broad economic opportunity**

Broadband, or high-speed Internet connectivity, has emerged as a fundamental component of the Commonwealth's economic infrastructure. Many Massachusetts communities lack access to affordable alternatives, such as cable modem or digital subscriber line (DSL) service.

Market forces have placed affordable broadband options primarily in our densely populated and more affluent communities. Large businesses can also get broadband connectivity virtually anywhere in the Commonwealth. However, rural businesses and individuals, as well as smaller businesses, field offices, and individuals in less affluent communities, often lack access to affordable broadband options.

In an economy increasingly based on information and speed, the lack of affordable broadband alternatives puts such individuals and small businesses at a significant competitive disadvantage.

figure 3-14

Share of All Zip Codes Served by High-Speed Internet Service Providers, by Region and Number of Providers

► **Broad economic opportunity** - Economic development cannot focus on narrow indicators, but must ensure that the benefits of economic development are widely and deeply spread among all citizens of the Commonwealth. Particular emphasis must be placed on the challenges confronted by minority populations in certain cities and regions. This includes access to financial and educational opportunities, as well as special attention to the “digital divide” and other barriers limiting participation in the emerging networked economy.

Performance Indicators: Employment levels, employment growth, unemployment rates, and per capita income are the standards across different population groups. Measurements for educational opportunity and the size and nature of the digital divide should also be included as indicators of broad economic opportunity.

► **Environmental sustainability** - The impact of economic development on the environment must inform all aspects of development planning, from technology infrastructure issues to transportation, land use planning, and affordable housing.⁵

Performance Indicators: Measures of environmental systems, environmental stresses and risks, human vulnerability to environmental impacts, social and institutional capacities, and regional stewardship.

► **Healthy and safe citizens** - The physical well being of citizens is a central responsibility of the State, particularly in the wake of the tragic events of September 11. This includes the availability of top health services, homeland security, adequate health insurance for all citizens, crime prevention resources, and measures to mitigate public health and environmental risks.

Performance Indicators: Measures include the percent of uninsured individuals and families, the cost of insurance to individuals, small businesses, and corporations; hospital inpatient and outpatient facilities; police and emergency personnel and resources; crime statistics; environmental risk assessments; and a strategic response to Commonwealth security.

► **Strong civic culture** - Social capital refers to the norms and networks that people can draw upon to solve common problems. Networks of civic engagement, such as neighborhood associations, sports clubs, and cooperatives, are an essential form of social capital. These networks have value, as they foster reciprocity and trustworthiness. In doing so, social capital contributes to quality of life and the productivity of our citizens.⁶ Massachusetts must continue to place a high priority on building “social capital” within the State, facilitating formal and informal connections between its citizens.

Performance Indicators: Voter turnout in national, state, and local elections; levels of voluntarism; numbers, types, and sizes of community meetings; number of charitable and non-profit service organizations, and community-building organizations (i.e. community newspapers).⁷

Approaching economic development with the central goal of promoting a high quality of life for all citizens in Massachusetts provides the necessary focus for a new strategic framework that will help the Commonwealth grow sustainably and provide an opportunity for all our regions and communities to participate in and benefit from this growth. The following chapter presents a framework designed for use by public and private sector leaders to help maintain and improve the economic competitiveness of their regions and to extend economic opportunity to all citizens of the Commonwealth.

⁵ Indicators taken from “*Pilot Environmental Sustainability Index: An Initiative of the Global Leaders for Tomorrow Task Force*,” World Economic Forum, January 2000. The “Index” was developed as a collaborative effort between the Yale Center for Environmental Earth Science Information Network (CIESIN) of Columbia University. The Index is meant to serve as a corollary to Gross Domestic Product and to provide countries with relative comparative measures of economic development and environmental sustainability. A similar Index could be developed to measure U.S. State progress towards environmentally sound development policies.

⁶ Robert Putnam, *Bowling Alone: The Collapse and Revival of American Community*. Simon and Schuster, 2000. See Chapter 1 for a review of social capital.

⁷ Ibid. Note that several of these indicators are the result of survey instruments, while others come from selected data sources.

Goal: A High Quality of Life

Massachusetts has many elements that contribute to a good quality of life: historic landmarks, natural resources, excellent universities and medical centers, and world class social and cultural institutions. It is important to ensure the health and vibrancy of all of these elements, while also enhancing the economic competitiveness of the state. *Choosing to Compete* sought to minimize potential conflict between economic and non-economic goals. There are a number of strategies to do this, such as the development of regulatory strategies that de-emphasize command and control approaches, the promotion of technologies that improve competitiveness and reduce pollution simultaneously, such as energy conservation and pollution reduction, and the improvement of the infrastructure base. Over the past decade there have been success stories in all of these categories.

Emphasizing a more collaborative approach to regulation

The Commonwealth has become more responsive to the needs of business since the publication of *Choosing to Compete*. There have been significant improvements in the drafting and enforcement of environmental regulations, improvements driven in part by greater input from the business community. Executive Order 384, issued by Governor Weld in 1996, led to the rewriting or removal of many regulations. These steps have made it easier to do business in Massachusetts and have improved the perception of the Commonwealth as a place to do business.

In 1995, the Department of Environmental Protection (DEP) switched its permit approval process from a command and control based structure to a project management based structure. Now companies that need multiple permits for a project have one point of contact at the DEP, which assists these companies through the approval process. In some permit categories, the agency has adopted a self-certification approach. These changes at the DEP have made the permit approval process clearer and more understandable. These improvements leave Massachusetts more competitive in attracting businesses while also preserving the environment and quality of life.

Energy technology and pollution reduction

Massachusetts has successfully reduced key air and water pollution problems. STEP, the Strategic Envirotechnology

figure 3-15

Pollutants Reduction in Massachusetts

| Pollutant | Problems Caused | Trend Since 1990 |
|-------------------------------------|---|------------------------------------|
| Nitrogen Oxide (NOx) | Smog-Respiratory Problems | Down 27% |
| Volatile Organic Compounds (VOC's) | Smog | Down 26% |
| Carbon Monoxide (CO) | Affects heart, mental functions | Down 47% |
| Sulphur Dioxide (SO ₂) | Acid Rain- damage to forests, freshwater ecosystems, structures | Down 41% |
| Nitrogen Dioxide (NO ₂) | Smog, acid rain | Down 19% |
| Particulate Matter (PM-10) | Respiratory Problems | Down 15% |
| Lead (Pb) | Brain, Liver damage | Down to nearly undetectable levels |

Source: DEP and EOEa

Partners, a joint program between of the EOEa and UMass, was established in 1994 to promote and stimulate private investment in environmental technology and encourage the development and deployment of innovative technologies that aid in environmental protection and resource conservation. STEP has provided assistance to more than 200 companies and technologies that have aided in the reduction of pollution in the Commonwealth.

Improvement of the infrastructure base

Massachusetts has made large investments to infrastructure improvements. Between 1991 and 1999, the Commonwealth has invested more than \$20 billion in rebuilding nearly half of the Commonwealth's aging infrastructure. During this period, the Commonwealth:

- Improved bridges. Reconstructed, renovated or repaired 1,337 municipal and state bridges managed by the Massachusetts Highway Department, or 30% of the Commonwealth's inventory.
- Increased investment in local infrastructure projects that support local business development. In 1999, the Commonwealth provided Public Works Economic Development (PWED) Grants to 73 cities and towns. PWED grant awards reached \$9.2 million during that year, significantly higher than the \$250,000 invested in 1992.
- Invested in our schools. Between 1991 and 1999, the Massachusetts Department of Education invested \$1.5 billion into 286 new construction or renovation projects.
- Enhanced our water infrastructure. The Massachusetts Water Resources Authority (MWRA) invested \$4.2 billion

in improving water and wastewater services in 60 cities and towns. Improvements have dramatically reduced pollution discharges into Boston Harbor and achieved compliance with federal regulation.

Investments have also resulted in the repair and replacement of water pipelines and the replacement of open storage reservoirs to protect treated water from contamination.⁸

Yet significant challenges remain. Massachusetts has \$4.5 billion in authorized transportation infrastructure projects, against a bond cap of \$513 million. Also, the Commonwealth has, over the next five years, an estimated \$3.9 billion in unmet needs for drinking water and wastewater infrastructure improvements. Overall, in May 2001, the Commonwealth had \$8.8 billion in authorized and unissued bonds for capital projects, against an annual bond allotment capped at \$1 billion.⁸

The New Challenge: Sprawl

The Commonwealth has made significant strides in improving its quality of life. Sprawl, or the expansion of new development, poses a new challenge. Figure 3-16 shows growth in developed land and housing units outpacing population growth. This pattern has shifted our population increasingly to areas with limited infrastructure. The resulting congestion, infrastructure overload, and environmental degradation threaten our quality of life.

In the eight years from 1991 – 1999, Massachusetts experienced an 11 percent increase in vehicle miles traveled. By comparison, our population grew only 5.5 percent between the census years, 1990-2000. This indicates greater reliance on the automobile and increased pressure to “sprawl.” One way to prevent sprawl is through the protection of open spaces. Since 1990, the state has protected 200,000 acres of open space and plans to protect another 100,000 acres by 2010.¹⁰ Brownfields projects and other redevelopment efforts will also help revitalize the Commonwealth’s urban spaces and reduce sprawl. Since 1993, initiatives to clean up brownfield sites have raised the number placed into service from about 100 per year to about 1,000 per year.¹¹

⁸ Massachusetts Executive Office of Administration and Finance, *Reconstructing Massachusetts*, January 2000.

⁹ MassInsight Corporation, “The Case for Infrastructure Investment” *Competitive Issues Report*, May 2001.

¹⁰ Massachusetts Executive Office of Environmental Affairs, *The State of the Environment*, 2000 p. 134 and Massachusetts Executive Office of Administration and Finance, *Rebuilding Massachusetts*, June 2001.

¹¹ Massachusetts Executive Office of Environmental Affairs, *The State of the Environment*, 2000 p. 68

figure 3-16

Growth in Developed Land Exceeds Growth of Population and Housing

